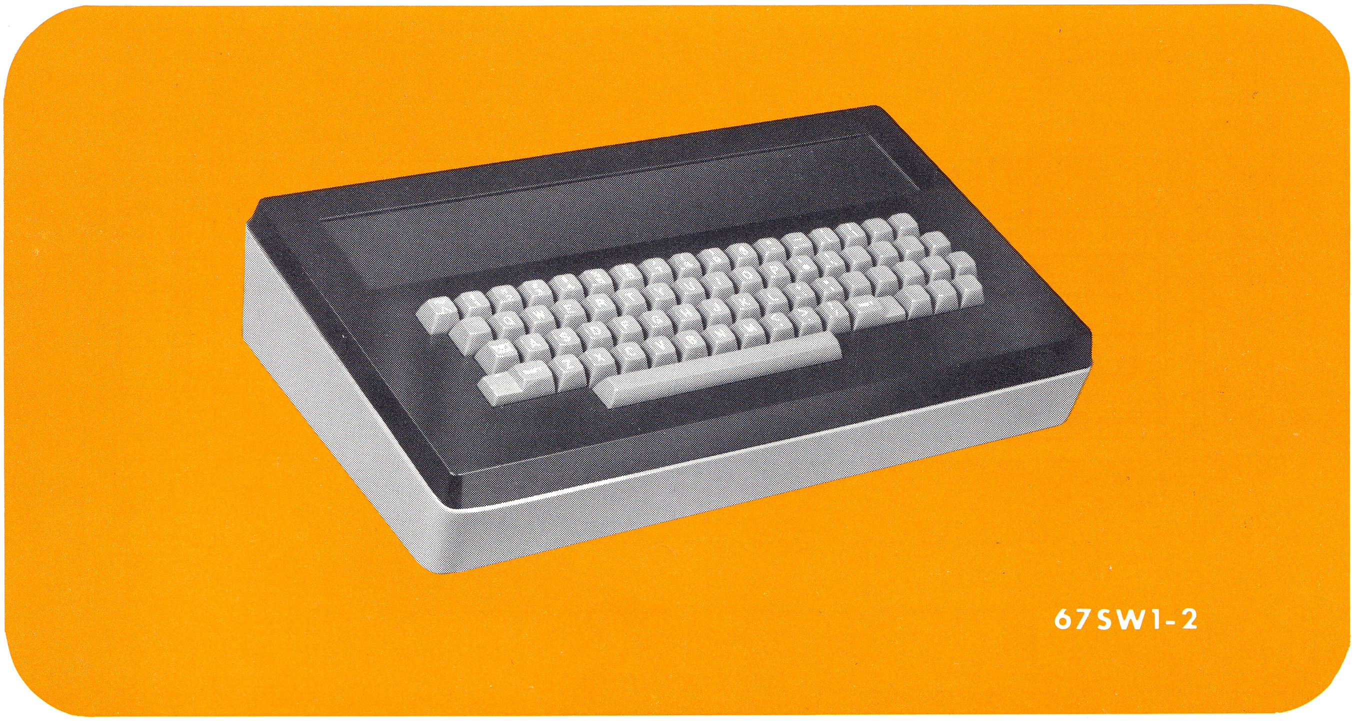
ISSUE 3

Solid State Keyboard | Product Sheet 67SW1-2



Features

- *SOLID STATE KEYS - - - GIVE GREATER RELIABILITY AND LONGER LIFE*
- *USASCII CODE ASSIGNMENT - - - THE INDUSTRY STANDARD*
- *STOCK KEYBOARD - - - FOR "OFF–THE–SHELF" AVAILABILITY*
- *15 KEYS RESERVED FOR CUSTOMER ASSIGNMENT- - - PERMITS CUSTOM KEYBOARDS*

A new generation in keyboards is here with this completely solid state keyboard. The only moving part in the keyboard is the switch plunger. To be sure that this part meets the reliability of the rest of the keyboard, we made it from extremely durable plastic with a large bearing surface.

An integrated circuit 0.040-inch square, actuated by a magnet, uses the Hall effect to produce an analog control voltage. Hall voltage is converted into a digital output with a trigger circuit, amplified, and fed into the keyboard encoding matrix.

The switch outputs are extended to integrated circuit encoding packs which provide an eight bit output. (eighth bit is odd parity) The keyboard may be interfaced to your equipment with a standard card-edge connector.

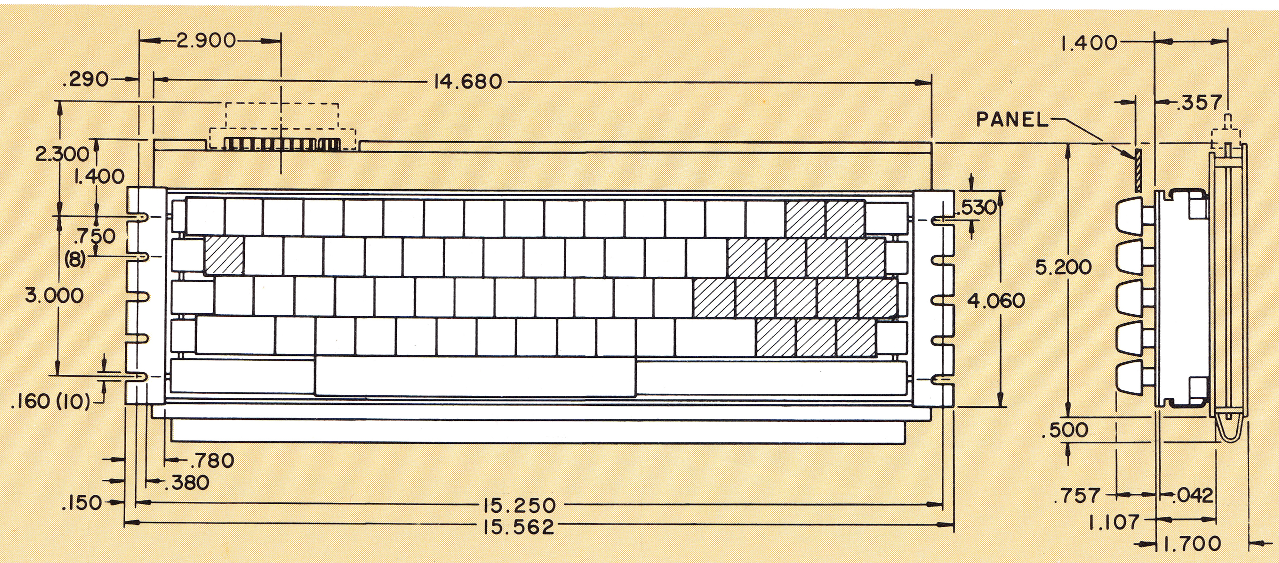
This keyboard also includes our two-key rollover option which is an electronic interlock. This option permits typing at "burst" speeds without generating a system error. It blocks the strobe signal to prevent reading of the data bits during the time that two keys are operated. A strobe output is provided which "tells" the system that data is present and ready to be read. Since the solid state switch has a bounce-free output, a delay in the strobe is not required.

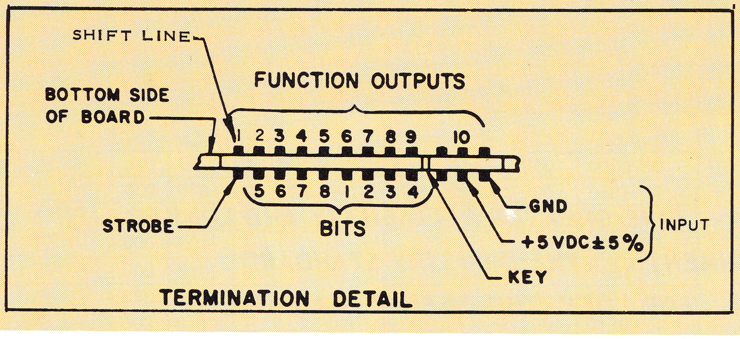
For operator convenience a shift lock key feature maintains the keyboard in the shifted mode. This key is a two-level alternate action switch and all circuitry necessary to maintain shift is self-contained within the keyboard. The two-level key also gives the operator a visual indication of which mode the keyboard is in.

A very short delivery time is possible since the keyboards are built and in stock, ready for you to assign the 15 key stations to meet your special system requirements.

MICRO SWITCH
FREEPORT, ILLINOIS 61032
A DIVISION OF HONEYWELL
IN CANADA: 740 ELLESMERE ROAD, SCARBOROUGH, ONTARIO

Specifications


2.900
.290
14.680
1.400
.357
PANEL
2.300
1.400
.750
(8)
3.000
.160 (10)
.530
5.200
4.060
.500
.780
.380
.150
15.250
15.562
.757
.042
1.107
1.700


SHIFT LINE
BOTTOM SIDE OF BOARD
FUNCTION OUTPUTS
1 2 3 4 5 6 7 8 9 10
5 6 7 8 1 2 3 4
STROBE
BITS
GND
+5 VDC±5%
INPUT
KEY

TERMINATION DETAIL

ELECTRICAL DATA

Power Requirements

+5 volts DC regulated ±5%
1 ampere maximum

Output Levels

Negative logic: +5 volt DTL compatible

Logic "0": +2.6 VDC minimum @0.12 milliamp

Logic "1": +0.45 VDC maximum @12 milliamps

Function Key Outputs: +3.15 VDC minimum @ 1 to 10 milliamps current source.

Key Unoperated: +0.25 VDC maximum with load resistance of 2,500 ohms or less.

Strobe Output Levels

All Keys in unoperated state: +2.6 VDC minimum @0.12 milliamp.

One Key operated: +0.45 VDC maximum @12.0 milliamps.

Two-Key Rollover Condition: +2.6 VDC minimum @ 0.12 milliamp.

KEY ASSIGNMENTS

48 Keys encoded dual mode USASCII
15 Unassigned keys to be specified by customer
2 Shift keys
1 Shift Lock Key
1 *Space bar*

OUTPUT INTERFACE

Card-edge output accepts standard connectors such as: Cinch-Jones 251-12-30-160. This connector is furnished with a between contact key. Winchester 8BD 12 has a between contact key but is a separate catalog listing, 109-8597. An equivalent connector may be used.

WEIGHT

With enclosure: 9 lbs. (approx.)
Without enclosure: 3.75 lbs. (approx.)

BUTTONS

Assigned Keys: MICRO SWITCH double-shot molded truncated buttons, gray with white legends.

Unassigned Keys: Same as above except without legends where no code is specified.

Shift Keys: Two-unit, two-level buttons with legend on upper level.

KEY ROW OFFSET

3/8 – 3/16 – 3/8 inch offset between rows.
(Keys on 3/4 inch centers)

BUTTON ORIENTATION

Sloped 13 degrees to horizontal.

OPTIONS INCLUDED

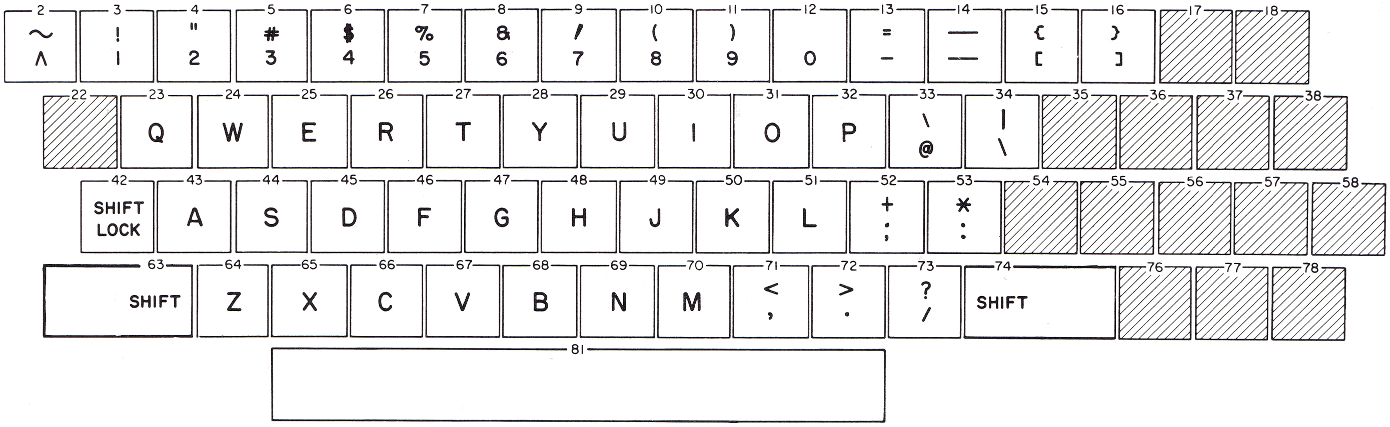
Two Key Rollover
Strobe (non delayed)
Shift Lock
Enclosure

SYSTEM CONTROL (See Termination Detail)

A shift line is provided to permit programming of your system to initiate keyboard shift. This line can also be used for mode indication within your system.

1. ***Shift Operation:*** Shift of the keyboard can be initiated from your system by providing a current source input of 3.15 Volts DC minimum @ 10 milliamps maximum to the shift line termination pad (see termination detail). An open circuit (100 microamps maximum leakage is required for the unshifted mode. The shift line must not be clamped to ground.
2. ***Mode Indication:*** The shift line can also be used for mode indication to your system, provided that the system circuit load resistance is greater than 2,000 ohms to ground or 200,000 ohms to the positive supply. (An external emitter follower circuit with a current sinking resistor can be used to increase the load driving capability.)

Code Assignment



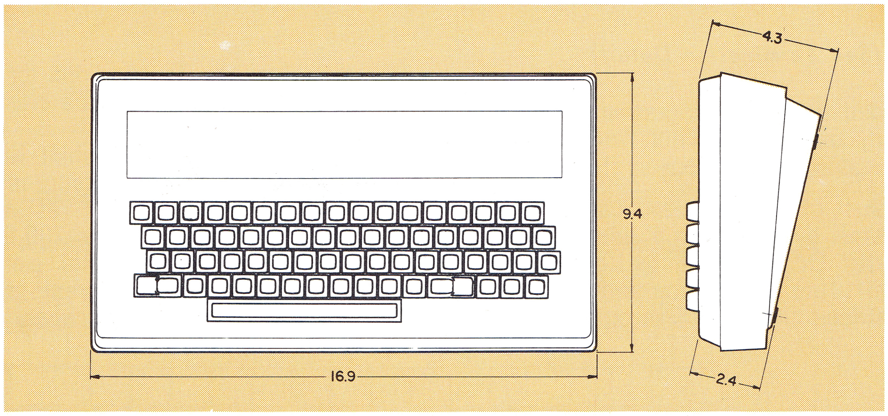
USASCII Odd Parity

KEY NO.	UNSHIFTED MODE			SHIFTED MODE		
	BITS 765	4321	P	BITS 765	4321	P
2	101	1110	0	111	1110	1
3	011	0001	0	010	0001	1
4	011	0010	0	010	0010	1
5	011	0011	1	010	0011	0
6	011	0100	0	010	0100	1
7	011	0101	1	010	0101	0
8	011	0110	1	010	0110	0
9	011	0111	0	010	0111	1
10	011	1000	0	010	1000	1
11	011	1001	1	010	1001	0
12	011	0000	1	011	0000	1
13	010	1101	1	011	1101	0
14	101	1111	1	101	1111	1
15	101	1011	0	111	1011	1
16	101	1101	0	111	1101	1
17	ASSIGNED BY CUSTOMER					
18	ASSIGNED BY CUSTOMER					
22	ASSIGNED BY CUSTOMER					
23	111	0001	1	101	0001	0
24	111	0111	1	101	0111	0
25	110	0101	1	100	0101	0
26	111	0010	1	101	0010	0
27	111	0100	1	101	0100	0
28	111	1001	0	101	1001	1
29	111	0101	0	101	0101	1
30	110	1001	1	100	1001	0
31	110	1111	1	100	1111	0
32	111	0000	0	101	0000	1
33	100	0000	0	110	0000	1
34	101	1100	1	111	1100	0
35	ASSIGNED BY CUSTOMER					
36	ASSIGNED BY CUSTOMER					
37	ASSIGNED BY CUSTOMER					
38	ASSIGNED BY CUSTOMER					
42	SHIFT LOCK					
43	110	0001	0	100	0001	1
44	111	0011	0	101	0011	1
45	110	0100	0	100	0100	1
46	110	0110	1	100	0110	0
47	110	0111	0	100	0111	1
48	110	1000	0	100	1000	1
49	110	1010	1	100	1010	0
50	110	1011	0	100	1011	1
51	110	1100	1	100	1100	0
52	011	1011	0	010	1011	1
53	011	1010	1	010	1010	0
54	ASSIGNED BY CUSTOMER					
55	ASSIGNED BY CUSTOMER					
56	ASSIGNED BY CUSTOMER					
57	ASSIGNED BY CUSTOMER					
58	ASSIGNED BY CUSTOMER					
63	SHIFT *					
64	111	1010	0	101	1010	1
65	111	1000	1	101	1000	0
66	110	0011	1	100	0011	0
67	111	0110	0	101	0110	1
68	110	0010	0	100	0010	1
69	110	1110	0	100	1110	1
70	110	1101	0	100	1101	1
71	010	1100	0	011	1100	1
72	010	1110	1	011	1110	0
73	010	1111	0	011	1111	1
74	SHIFT *					
76	ASSIGNED BY CUSTOMER					
77	ASSIGNED BY CUSTOMER					
78	ASSIGNED BY CUSTOMER					
81	010	0000		010	0000	0

*See System Control

(Continued, next page)

ENCLOSURE



The enclosure cover is dark gray, high strength, ABS (Acrylonitrile-Butadiene-Styrene) and the base is light gray cast aluminum alloy. Keyboard may be purchased without enclosure.

Code Selection Chart for Unassigned Keys

1. Any of 15 unassigned keys up to a maximum of eight may be used as function keys.
2. Any or all of the 15 unassigned keys may be encoded from the following code chart. (The same code will be generated in the unshifted and shifted modes.)

USASCII Characters	CODE* BITS		
	765	4321	P
NUL	000	0000	1
SOH	000	0001	0
STX	000	0010	0
ETX	000	0011	1
EOT	000	0100	0
ENQ	000	0101	1
ACK	000	0110	1
BEL	000	0111	0
BS	000	1000	0
HT	000	1001	1
LF	000	1010	1
VT	000	1011	0
FF	000	1100	1
CR	000	1101	0
SO	000	1110	0
SI	000	1111	1

*Shifted and unshifted mode.

USASCII Characters	CODE* BITS		
	765	4321	P
DLE	001	0000	0
DC1	001	0001	1
DC2	001	0010	1
DC3	001	0011	0
DC4	001	0100	1
NAK	001	0101	0
SYN	001	0110	0
ETB	001	0111	1
CAN	001	1000	1
EM	001	1001	0
SUB	001	1010	0
ESC	001	1011	1
FS	001	1100	0
GS	001	1101	1
RS	001	1110	1
US	001	1111	0
DEL	111	1111	0

Ordering Information

Contact your nearest MICRO SWITCH Branch Office and a Field Engineer will be glad to work with you in satisfying your keyboard requirements: proper selection, pricing, and delivery scheduling. These experienced keyboard experts will provide sound and practical answers to your needs.

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